

What is claimed is:

1. A multi-processor system comprising:

a plurality of processors for performing data processing; and

a controller for broadcasting broadcast data including data used in

5 data processing to said plurality of processors, wherein each of said plurality of processors sorts out data necessary for data processing to be performed by each processor from said broadcast data broadcasted by said controller to perform data processing.

10 2. The multi-processor system according to claim 1, wherein said controller obtains a result of processing from each processor that has performed data processing, and broadcasts the obtained result of processing to all processors as said broadcast data.

15 3. The multi-processor system according to claim 1, wherein each of said plurality of processors is assigned identification data for identifying each processor, said controller generates broadcast data where identification data of the processor as a result obtaining source is added to said result of processing and broadcasts said data, and said plurality of processors sorts out said result of processing necessary for data processing that each processor should perform at next timing based
20 on said identification data included in said received broadcast data.

25 4. The multi-processor system according to claim 3, further comprising a sort mechanism for obtaining identification data from the processor that has finished data processing among said plurality of processors to send obtained identification data to said controller in a given sequence, wherein said controller is configured to obtain said result of processing based on identification data received from said sort

mechanism.

5 5. The multi-processor system according to claim 4, further comprising means for generating priority data that fixes a reading sequence of said result of processing to be performed by said controller, wherein the processor that has finished data processing is configured to send said sort mechanism identification data of the processor and said priority data about the processing, said sort mechanism is configured to determine a sequence of sending said identification data based on said priority data.

10 6. The multi-processor system according to claim 5, wherein said sort mechanism includes the same number of registers as said processors, means for recording said identification data and identification data sent from the respective processors in said register relating to the corresponding processor, a comparator for performing a comparison between said priority data to determine sequence of
15 identification data recorded in the respective registers, and said sort mechanism determines the sequence of sending said identification data based on the determination result of said comparator.

20 7. The multi-processor system according to claim 4, wherein said controller includes memory for storing data, storage control means for obtaining said result of processing from the processor specified by the identification data received from said sort mechanism to store the obtained result in said memory, and data generating means for reading
25 said result of processing stored in said memory to generate said broadcast data that includes said result of processing and said received indemnification data.

8. The multi-processor system according to claim 4, wherein each of said plurality of processors includes a data processing mechanism for determining whether or not data necessary for data processing that is performed by each processor is included in said broadcast data to sort out only the data when said necessary data is included therein and perform data processing, means for sending said controller the result of data processing performed by said data processing mechanism and identification of each processor according to a request from said controller, and means for sending said sort mechanism process end notifying data including identification data of each processor when ending data processing.

9. A multi-processor system comprising:

a plurality of processors for each holding template data to be compared with data to be input;

a controller for broadcasting said input data to said plurality of processors; and

a comparison mechanism for comparing the respective outputs of said plurality of processors,

wherein template data held by said plurality of processors is different from template data held by other processors, respectively, each of said plurality of processors calculates a differential value between the feature of said input data broadcasted by said controller and the feature of the template that is held by each processor and sends said comparison mechanism a pair of data including said calculated differential value and identification data for identifying each processor, said comparison mechanism selects any one of differential values based on said

differential values received from the respective processors and sends said controller identification data paired with the selected differential value, and said controller specifies one processor from said plurality of processors based on the identification data received from said comparison mechanism.

10. A multi-processor system comprising:

a plurality of processors for performing data processing;

a controller for broadcasting data used in data processing to said plurality of processors; and

a sum circuit for calculating the sum of results of data processing performed by said plurality of processors,

wherein each of said plurality of processors sorts out only data necessary for processing from said data broadcasted by said controller to perform data processing and sends the result of processing to said sum circuit, and said sum circuit calculates the sum of the results of processing sent from the respective processors and sends the calculation result to said controller, and said controller broadcasts the sum of the results of processing received from said sum circuit to said plurality of processors.

11. The multi-processor system according to claim 1, wherein at least some of said plurality of processors are connected to each other in a ring format via common memory, and are configured such that transmission/ reception of data between the processors connected in a ring format is performed via said common memory.

12. The multi-processor system according to claim 9, wherein at least some of said plurality of processors are connected to each other in a

ring format via common memory, and are configured such that transmission/ reception of data between the processors connected in a ring format is performed via said common memory.

13. The multi-processor system according to claim 10, wherein at least some of said plurality of processors are connected to each other in a ring format via common memory, and are configured such that transmission/ reception of data between the processors connected in a ring format is performed via said common memory.

14. A data processing method, which is executed by an apparatus or a system having a plurality of data processing means each which performs data processing, and control means for controlling an operation of each of said plurality of data processing means, said method comprising the steps of:

obtaining a result of data processing in a given order in which data processing was performed by each of said plurality of processors to generate broadcast data including the obtained result of processing and identification data for identifying data processing means as a processing result obtaining source and broadcast said broadcast data to said plurality of data processing means, wherein said step is performed by said control means; and

selecting only some of the processing results specified based on said identification data from broadcast data received by said control means to perform data processing and send said control means the result of processing and identification data indicating each data processing means, wherein said step is performed by at least one of said plurality of data processing means.

15. A data processing system comprising:

a plurality of data processing means for performing data processing;

and

control means for broadcasting broadcast data including results of

5 data processing received from some or all of said plurality of data processing means and data used in data processing performed by at least one of said data processing means,

wherein each of said plurality of data processing means sorts out only data necessary for data processing to be performed by each data processing means from said broadcast data broadcasted by said control means to perform data processing and sends the processing result to said control means.

16. A data processing system that performs two-way communication between a plurality of data processing means that performs data processing, said data processing system comprising:

means for specifying at least one said data processing means to generate broadcast data including identification information of said specified data processing means and data processing data directed to the data processing means;

20 means for obtaining a result of data processing performed by the corresponding data processing means from some or all of said plurality of data processing means; and

means for including the processing result received in said broadcast data to broadcast said broadcast data to each of said plurality of data processing means.

17. A computer program for causing an apparatus having a

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computer that performs two-way communication between a plurality of data processing means that performs data processing to form the following functions of:

(1) specifying at least one said data processing means to generate broadcast data including identification information of said specified data processing means and data processing data directed to the data processing means;

(2) obtaining a result of data processing performed by the corresponding data processing means from some or all of said plurality of data processing means; and

(3) including the processing result received in said broadcast data to broadcast said broadcast data to each of said plurality of data processing means.

18. A semiconductor device that is incorporated into an apparatus having a computer that performs two-way communication between a plurality of data processing means that performs data processing, whereby causing said computer to form the following functions of:

(1) specifying at least one said data processing means to generate broadcast data including identification information of said specified data processing means and data processing data directed to the data processing means;

(2) obtaining a result of data processing performed by the corresponding data processing means from some or all of said plurality of data processing means; and

(3) including the processing result received in said broadcast data to broadcast said broadcast data to each of said plurality of data processing

means.

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